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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Mattes

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EXAMINER

KENNEDY, TIMOTHY J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,558	Applicant(s) MATTES, THOMAS	
	Examiner TIMOTHY KENNEDY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-93 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30,34,37,40,43,46,49,52,55,58,61,64,67,70,73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 31-33,35,36,38,39,41,42,44,45,47,48,50,51,53,54,56,57,59,60,62,63,65,66,68,69,71,72 and 74-93.

DETAILED ACTION

Response to Amendment

1. By way of the amendment filed 4/8/2010: claim 30 is amended, claims 1-29 are canceled, claims 34, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, and 73 were previously presented, and the remainder are withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Examiner wishes to point out to applicant that claims 30, 34, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, and 73 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the process of using the apparatus is viewed as recitation of intended use and is not given patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

4. Claims 30, 34, 37, 40, 43, 52, 55, 58, 64, 67, 70, and 73 are rejected under 35 U.S.C. 102(b) as being anticipated by Exner (DE 19952998, already of record, using machine translation provided by Applicant as English equivalent). Regarding claim 30, Exner teaches:

5. Apparatus for manufacturing a three-dimensional object by a generative manufacturing method, wherein the object is manufactured in a vertical direction layer-wise from a building material (Figure 1)

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6. A support (Figure 1, parts 9a)
7. A material application device for applying layers of a building material onto a support or a layer (Figures 1 and 2, parts 7, 7a, and 7b)
8. An arrangement for solidifying the applied layer in order to interconnect the applied layer with a layer, which was applied before, in a solidification region (The arrangement for solidifying is considered the laser system, that is the structural limitation, and is capable of performing the there-after claimed function: page 12, fourth and fifth paragraphs, or page 16 third through fifth paragraphs)
9. The support and the material application device are moveable with respect to each other in such a way, that during the solidification of the applied layer in said solidification region, the layer, which was applied before, and the material application device are moved with respect to each other and the support can be moved relative to the material application device in a rotational movement with feed in direction of the axis of rotation. (The steps as laid out in the First Embodiment, pages 11-12 or The steps as laid out in the Third Embodiment, page 15 of the English translation and Figure 1, parts 3, 4, 7, 9a, 9b, and 10)
10. Regarding claim 34, Exner teaches:
11. The feed is carried out continuously or in steps (The steps as laid out in the First Embodiment, pages 11-12 or The steps as laid out in the Third Embodiment, page 15 of the English translation)
12. Regarding claim 37, Exner teaches:

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13. The support and the material application device are moveable in such a way, that in a complete rotation the support departs from the material application device by an amount of a thickness of one layer (The steps as laid out in the First Embodiment, pages 11-12 or The steps as laid out in the Third Embodiment, page 15 of the English translation: the material application device rotates in said manner)

14. Regarding claim 40, Exner teaches:

15. The support moves and the material application device and the arrangement for interconnecting the layers are stationary (The steps as laid out in the First Embodiment, pages 11-12 or The steps as laid out in the Third Embodiment, page 15 of the English translation)

16. Regarding claim 43, Exner teaches:

17. The support is stationary and the material application device and the arrangement for interconnection move (The steps as laid out in the First Embodiment, pages 11-12 or The steps as laid out in the Third Embodiment, page 15 of the English translation)

18. Regarding claim 52, Exner teaches:

19. Several solidification regions are provided (Figure 1, part 1: the multiple layers are the several solidification regions)

20. Regarding claim 55, Exner teaches:

21. Several supports are provided (Figure 2, parts 3a and 3b)

22. Regarding claim 58, Exner teaches:

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23. The feeds of the supports can be controlled independently (First Embodiment, or Third Embodiment of English translation)

24. Regarding claim 64, Exner teaches:

25. Several material application devices are provided (Third Embodiment, page 15, above the steps: "cover plates 7a, 7b with the doctors)

26. Regarding claim 67, Exner teaches:

27. Wherein to each solidification region there is assigned an arrangement for interconnection of the applied layer to a layer, which was applied before (First Embodiment or Third Embodiment of English translation)

28. Regarding claim 70, Exner teaches:

29. The building material is in form of powder and the apparatus for interconnection of the applied layer to a layer of the building material, which was applied before, is preferably a laser for sintering the powder or an arrangement for solidification of the powder by a glue (First Embodiment or Third Embodiment of English translation)

30. Regarding claim 73, Exner teaches:

31. The support is part of a container for accommodating the building material (Figure 1, parts 2, 4, 9b, and 10)

Claim Rejections - 35 USC § 103

32. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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33. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

34. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

35. Claims 46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Exner, in view of Kubo et al (U.S. PGPub 2001/0050448, already of record, herein after referred to as Kubo). Regarding claims 46 and 49, Exner does not teach:

36. Claim 46) The velocity and/or the feed in direction of the axis of rotation can be varied

37. Claim 49) The circumferential velocity of the rotational movement can be varied.

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38. In the same field of endeavor Kubo teaches, varying the speed at which the material is applied by adjust the speed of the applicators rotation (paragraphs 0108 and 0115). This creates a more even layer.

39. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the variable speeds as taught by Kubo, using the Exner apparatus, since doing so would produce a more even powder layer, thus producing a better product.

40. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Exner, in view of Masters (U.S. Patent 5,134,569). Regarding claim 61, Exner does not teach:

41. The supports make a rotational movement on a non-circular path, preferably a polygon with n corners, for the case that n supports are provided.

42. In the same field of endeavor Masters teaches placing the building area (i.e. the supports) on a two axis slide system. This would allow the user to create a non-circular rotational movement during the creation of the model.

43. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the two axis slide system as taught by Masters using the Exner apparatus, since doing so would allow precise movements to create objects were tight volumetric tolerances are needed.

Response to Arguments

44. Applicant's arguments filed 4/8/2010 have been fully considered but they are not persuasive.

45. The Applicant argues that the Examiner has not given proper weight to the functional limitations in the pending apparatus claims, and broadly points to MPEP 2114 for support.

46. However if one was to read MPEP 2114, one would not find support for the Applicant's allegations. From MPEP 2114:

47. Apparatus claims must be structurally distinguishable from the prior art. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function...Apparatus claims cover what a device is, not what a device does.

48. Manner of operating the device does not differentiate apparatus claim from the prior art. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus if the prior art apparatus teaches all the structural limitations

49. The Applicant appears to be arguing entirely based on the functional limitations of the claims, and has not provided evidence to show how the prior art presented differs structurally from the claims.

50. The interpretation used by the Examiner in claim 30, based on the structural limitations still show that Exner anticipates the claim. Since Exner teaches a support (9a), a material application device (the doctor(s) on part 7a/7b), an arrangement for

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solidifying the applied layer (the laser which is discussed in both the First and Third embodiments), and regarding the last limitation of claim 30:

51. The support and the material application device are moveable with respect to each other in such a way, that during the solidification of the applied layer in said solidification region, the layer, which was applied before, and the material application device are moved with respect to each other and the support can be moved relative to the material application device in a rotational movement with feed in direction of the axis of rotation

52. Exner teaches that the support and material application device are capable of such relative movement, since in the steps provided in the first and third embodiments, the application device rotates relative to the support, during the solidification of the layer. The Examiner is interpreting solidification to mean cooling down from a liquid state. And finally the application device rotates relative to the layer which was applied before, since the application device needs to rotate to apply a new layer, which is in a feed direction due to the rotation around the axis of rotation as shown in Figures 1 and 2.

53. Claiming a relative movement between two or three objects means that any of the three objects can move. However it appears that the Applicant is arguing that the support is what rotates while the laser is in operation, which are unclaimed features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY KENNEDY whose telephone number is (571)

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270-7068. The examiner can normally be reached on Monday to Friday 9:00am to 6:00pm (Personal fax number 571-270-8068).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tjk

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791